

Unpacked South Dakota State Mathematics Standards

Purpose: *In order for students to have the best chance of success, standards, assessment, curriculum resources, and instruction must be aligned in focus, coherence, and rigor. Unpacked standards documents are intended to help align instruction to the focus, coherence, and rigor of the South Dakota State Mathematics Standards. The standards have been organized in clusters as they are not so much built from topics, but rather woven out of progressions. Not all content in a given grade is emphasized equally in the mathematics standards. Some clusters require greater emphasis than others based on the depth of the ideas, the time that they take to master, and/or their importance to future mathematics or the demands of college and career readiness. To say that some things have greater emphasis is not to say that anything in the standards can safely be neglected in instruction. Neglecting standards will leave gaps in student skill and understanding and may leave students unprepared for the challenges of a later grade.*

Domain: Geometry		Grade Level: 5
5.G.B Cluster: Classify two-dimensional figures into categories based on their properties.		
The focus for this cluster is understanding the relationships between shapes. Students sort and classify two-dimensional shapes in a hierarchy based on their attributes.		
<p>**This is an ADDITIONAL cluster. <i>Students should spend the large majority of their time (65-85%) on the major work of the grade. Supporting work and, where appropriate, additional work should be connected to and engage students in the major work of the grade.</i></p> <p>5.G.3 Understand that attributes belonging to a category of two-dimensional figures also belong to all subcategories of that category. For example, all rectangles have four right angles and squares are rectangles, so all squares have four right angles.</p> <p>5.G.4 Classify two-dimensional figures in a hierarchy based on properties. For example, all rectangles are parallelograms, because they are all quadrilaterals with two pairs of opposite, parallel, equal-length sides.</p>		
Aspects of Rigor for Student Learning: (Conceptual, Procedural, and/or Application)		
Conceptual Understanding	Procedural Fluency	Application
Understand that two-dimensional figures have attributes. ¹		
Understand that the attributes of one category also apply to all subcategories. ² (5.G.3)		
	Classify two-dimensional figures in a hierarchy based on attributes ² (5.G.4)	
Enacting the Mathematical Practices - Evidence of Students Engaging in the Practices		
<ol style="list-style-type: none"> 1. Make sense of problems and persevere in solving them. <ul style="list-style-type: none"> Students will classify shapes based on attributes. Students will justify their reasoning when classifying shapes. 2. Reason abstractly and quantitatively. 3. Construct viable arguments and critique the reasoning of others. 4. Model with mathematics. <ul style="list-style-type: none"> Students may use geometric figures, pictures or physical objects. 5. Use appropriate tools strategically. <ul style="list-style-type: none"> Students may use polygons to classify shapes based on attributes. 6. Attend to precision. <ul style="list-style-type: none"> Students will use clear and specific details when classifying shapes. 7. Look for and make use of structure. 		

8. Look for and express regularity in repeated reasoning.

- Students will identify attributes of shapes to classify.
- Students will organize shapes based on a hierarchy of attributes.

Vertical and Horizontal Coherence and Learning Progressions

Previous Learning Connections

Students have learned that shapes in different categories share attributes. **(2.G.1)**

Students have also learned that shared attributes can define a larger category. For example rectangles, squares, and rhombuses are all examples of quadrilaterals. **(3.G.1)**

Students have learned to classify two-dimensional figures based on lines and angles. **(4.G.2)**

Current Learning Connections

Future Learning Connections

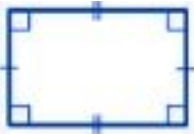
In 7th grade, students will draw shapes with given conditions. **(7.G.2)**

Vocabulary (Key Terms Used by Teachers and Students in this Cluster):

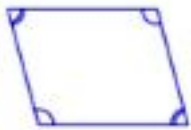
- | | | |
|--|--|---|
| <ul style="list-style-type: none">• 2-dimensional figure• Acute angle• Acute triangle• Obtuse triangle• Right triangle | <ul style="list-style-type: none">• Scalene triangle• Angle• Classify• Congruent angles• Parallelogram | <ul style="list-style-type: none">• Polygon• Quadrilateral• Regular polygon• Rhombus• Right angle• Trapezoid |
|--|--|---|

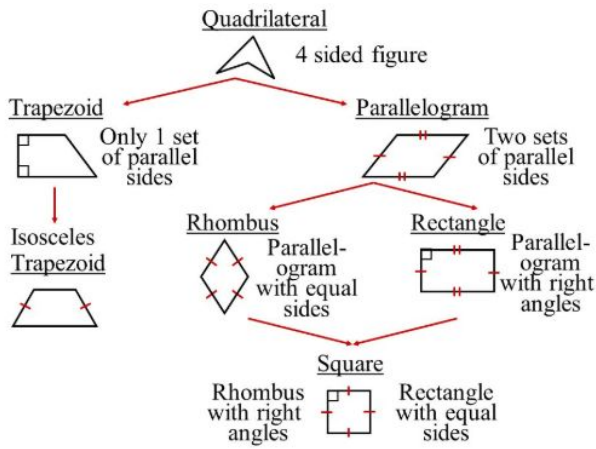
Relevance, Explanations, and Examples:

¹ A rectangle has 4 right angles:



A parallelogram has 2 pairs of parallel sides.





Achievement Level Descriptors

Cluster: Classify two-dimensional figures into categories based on their properties.

Concepts and Procedures

Level 1:

Level 2: Students should be able to classify two dimensional figures into categories by their attributes or properties.

Level 3: Students should be able to classify two dimensional figures into subcategories by their attributes or properties.

Level 4: